

LIST OF MITIGATION MEASURES AND
ENVIRONMENTAL DESIGN CONSIDERATIONS

CHAPTER 7.0 – LIST OF MITIGATION MEASURES AND ENVIRONMENTAL DESIGN CONSIDERATIONS

7.1 Comprehensive Listing of Mitigation Measures

7.1.1 Mitigation for Impacts to Aesthetics

The following mitigation measure would reduce potentially significant visual impacts to less than significant levels.

M-AE-1 Prior to the issuance of a grading permit, the subdivider shall obtain approval from the Director of the Department of Planning and Land Use (DPLU) of the detailed and final Landscape Plan for visual screening of manufactured slopes. This Project must conform to the following:

- The detailed Landscape Plan must conform to the Concept Landscape Plan discussed in this EIR, and also will include incorporation of denser planting and larger container stock along the western property line south of Cleveland Trail.
- The detailed Landscape Plan must be approved prior to obtaining any building or other permit pursuant to the Project Site Plan, and prior to commencement of construction or use of the property in reliance on the Site Plan.
- The detailed Landscape Plan must conform to the requirements of the County's Landscape Water Conservation Ordinance and Design Manual, and Project FPP.
- The detailed Landscape Plan also must address the maintenance of proposed landscaping and required fire walls. Ongoing maintenance will be the responsibility of the private HOA. All landscaping is required to be maintained in a healthy, disease-free condition for the life of the Project.

7.1.2 Mitigation for Impacts to Biological Resources

Mitigation is identified for each of the significant impacts identified above. Table 2.2-6, Summary of Required Mitigation for Impacts Associated with the Proposed Project, summarizes the amount of habitat impacted on and off the Project site, as well as the amount of required mitigation. The mitigation measures listed below would reduce Project impacts to biological resources to below a level of significance.

The mitigation outlined below for direct impacts to on- and off-site habitats includes preservation creation of habitat and enhancement of habitat on site. Appendix H of the Biological Technical Report (EIR Appendix D) contains the Conceptual HMP for the Project, which discusses restoration and management of the habitat to be preserved on site.

M-BI-1a Impacts to 0.6 acre of coast live oak woodland shall be mitigated on site. Approximately 0.4 acre of existing coast live oak woodland shall be within the on-site biological open space easement. Approximately 0.9 acre of coast live oak woodland creation shall occur on existing non-native grassland and disturbed habitat within the biological open space.

- M-BI-1b Impacts to 23.3 acres of Diegan coastal sage scrub shall be mitigated through on-site preservation at a 2:1 ratio (46.6 acres).
- M-BI-1c Impacts to 11.1 acres of non-native grassland shall be mitigated at a 0.5:1 ratio. This requirement shall be partially met through on-site preservation of 2.4 acres of non-native grassland within the biological open space easement. The remainder of the requirement shall be met through on-site preservation of 3.2 acres of grass-dominated coastal sage scrub within the biological open space.
- M-BI-2 Impacts to 170 linear feet (320 square feet) of drainage jurisdictional to the ACOE and CDFG shall be met through removal of exotic plant species, including castor bean (*Ricinus communis*) and fennel (*Foeniculum vulgare*), from the length of the drainage. The Project Applicant shall obtain applicable regulatory permits from other agencies.
- M-BI-3 The following measures shall be implemented to mitigate potential impacts associated with further colonization by non-native plant species:
- The conceptual landscape plans include specifics regarding the types of plant species allowed along the Project footprint boundary. The final landscape plans shall be reviewed prior to approval to ensure that no invasive non-native plants (as identified by the California Invasive Plant Council) are used adjacent to any biological open space areas.
 - The Project Applicant shall implement the required HMP (Appendix H of EIR Appendix D) for the Proposed Project, including habitat monitoring and management to identify and minimize potential indirect effects to open space resources; exotic species control; and implementation of a homeowners' education program to educate residents of the sensitivity of the resources in the biological open space, basic stewardship, and prohibited/allowed activities in the open space. The conceptual HMP is a draft document that sets guidelines. A final RMP shall be prepared prior to Project grading.
- M-BI-4 The following measures shall be implemented to reduce impacts from edge effects and human activity:
- The limits of grading shall be flagged or marked with silt fencing prior to grading to prevent inadvertent impacts to adjacent sensitive habitat. Prior to brushing, a qualified biologist shall review the flagging and fencing.
 - A qualified biologist shall monitor the limits of grading during clearing, grubbing, and grading, as well as during trenching within Cleveland Trail and excavation of the jacking pits for installation of the sewer line between Cleveland Trail and Buena Creek Road. Monitoring shall be conducted once per day with weekly reports submitted to the County DPLU. If inadvertent impacts occur, they shall be reported to the appropriate agency within 24 hours.
 - The preserved open space areas shall be fenced off from the backyards of the proposed homes, and delineated with split rail fences along roadways adjacent to the open space preserve.

- After completion of grading, permanent signs stating the following shall be erected along the limits of the open space:

Sensitive Environmental Resources
Disturbance Beyond this Point is Restricted by Easement

Information:
Contact County of San Diego, Department of Planning and Land Use
Ref: 02-08-047

- The Project applicant shall implement the required HMP (Appendix H of EIR Appendix D) for the Proposed Project, as outlined in M-BI-3.

- M-BI-5 Impacts related to loss of habitat for the coastal California gnatcatcher shall be mitigated through on-site Diegan coastal sage scrub preservation, as specified in M-BI-1c. Diegan coastal sage scrub supporting nesting gnatcatchers shall not be removed during the breeding season (February 15 through August 30 or until all nesting is complete). Prior to construction, demonstration of the absence of gnatcatchers shall require surveys pursuant to USFWS protocol, with clearing of unoccupied habitat requiring concurrence of the wildlife agencies.
- M-BI-6 Impacts related to loss of raptor foraging habitat shall be mitigated through on-site preservation of Diegan coastal sage scrub and non-native grassland, as specified in M-BI-1c and M-BI-1d.
- M-BI-7 Compliance with the MBTA requires vegetation clearing to occur outside of the breeding season (February 15 through August 31). If clearing must occur during the breeding season, a pre-construction survey shall be conducted to determine the presence or absence of nesting birds within the project footprint. If no nests are found, clearing may commence. If nests are found, clearing shall be postponed until after the breeding season.
- M-BI-8 No grading or clearing shall be initiated within 300 feet of occupied habitat during coastal California gnatcatcher breeding season (February 15 through August 31). All grading permits, grading plans and improvement plans shall state the same. If clearing or grading would occur during gnatcatcher nesting season, a qualified biologist shall conduct a pre-construction survey, pursuant to USFWS protocol, to determine if this species occurs within impacted areas. With concurrence of the wildlife agencies and the County of San Diego, if there are no gnatcatchers nesting (including nest building or other breeding/nesting behavior) within this area, development shall be allowed to proceed.
- M-BI-9 No grading or clearing shall be initiated within 500 feet of occupied tree-nesting raptor habitat during raptor breeding season (January 15 through July 15), or within 800 feet of ground-nesting raptor habitat during raptor breeding season (February 1 through July 15). All grading permits, grading plans and improvement plans shall state the same. If clearing or grading would occur during raptor nesting seasons, a qualified biologist shall conduct a pre-construction survey to determine if these species occur within impacted areas. If there are no raptors nesting (including nest building or other breeding/nesting behavior) within this area, development shall be allowed to proceed. If a nest occurs in a tree to be impacted, the tree shall not be removed while the nest is active (potentially, January through July).

- M-BI-10 Construction activities shall not take place in proximity to an active gnatcatcher nest such that noise levels exceed 60 dB(A) L_{eq} . Noise levels will be periodically monitored by the monitoring biologist and/or a noise specialist. Indirect impacts to raptor nests shall be mitigated through placement of a construction buffer, as specified in M-BI-9.

7.1.3 Mitigation for Impacts to Cultural Resources

The following mitigation measure would reduce potentially significant cultural resources impacts to less than significant levels.

M-CR-1 Grading Monitoring and Data Recovery Program

Prior to approval of grading and/or improvement plans, the Project Applicant shall:

Implement a grading monitoring and data recovery program to mitigate potential impacts to undiscovered buried archaeological resources on the Sugarbush Project, GPA 05-010, SP 03-003, TM 5295, Log No. 02-08-097 to the satisfaction of the Director of DPLU. This program shall include, but shall not be limited to, the following actions:

1. Provide evidence to the satisfaction of the Director of DPLU that a County-certified archaeologist has been contracted to implement a grading monitoring and data recovery program. A letter from the Principal Investigator shall be submitted to the Director of DPLU. The letter shall include the following guidelines: *[DPLU, FEE]*
 - a. The Project Archaeologist shall contract with a Native American monitor to be involved with the grading monitoring program as outlined in the County of San Diego Report Format and Content Requirements – Cultural Resources: Archaeological and Historic Resources (December 5, 2007).
 - b. The County-certified archaeologist/historian and Native American monitor shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program as outlined in the County of San Diego Report Format and Content Requirements – Cultural Resources: Archaeological and Historic Resources (December 5, 2007).
 - c. The Project Archaeologist shall monitor all areas identified for development including off-site improvements.
 - d. An adequate number of monitors (archaeological/historical/Native American) shall be present to ensure that all earth-moving activities are observed and shall be on-site during all grading activities for areas to be monitored.
 - e. During the original cutting of previously undisturbed deposits, the archaeological monitor(s) and Native American monitor(s) shall be on site full-time to perform full-time monitoring. Inspections will vary based on the rate of excavation, the materials excavated and the presence and abundance

of artifacts and features. The frequency and location of inspections will be determined by the Project Archaeologist in consultation with the Native American monitor. Monitoring of cutting of previously disturbed deposits will be determined by the Principal Investigator.

- f. Isolates and clearly non-significant deposits shall be minimally documented in the field and the monitored grading can proceed.
- g. In the event that previously unidentified potentially significant cultural resources are discovered, the archaeological monitor(s) shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The Principal Investigator shall contact the County Archaeologist at the time of discovery. The Principal Investigator, in consultation with the County Staff Archaeologist, shall determine the significance of the discovered resources. The County Archaeologist must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared by the Principal Investigator and approved by the County Archaeologist, then carried out using professional archaeological methods.
- h. If any Native American burials, human skeletal or other remains including associated grave goods are discovered, the Principal Investigator shall contact the County Coroner. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant (MLD) as identified by the NAHC shall be contacted by the Principal Investigator in order to determine proper treatment and disposition of the remains.
- i. Before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The Principal Investigator shall determine the amount of material to be recovered for an adequate artifact sample for analysis.
- j. In the event that previously unidentified cultural resources are discovered, all cultural materials collected during the grading monitoring program shall be processed and curated at a San Diego facility that meets federal standards per 36 CFR Part 79, and therefore would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curation. Evidence shall be in the form of a letter from the curation facility identifying that archaeological materials have been received and that all fees have been paid.
- k. Monthly status reports shall be submitted to the Director of DPLU starting from the date of the notice to proceed to termination of implementation of the grading monitoring program. The reports shall briefly summarize all activities during the period and the status of progress on overall plan

implementation. Upon completion of the implementation phase, a final report shall be submitted describing the plan compliance procedures and site conditions before and after construction. (Note: use this condition only if grading will take more than one month).

- l. In the event that previously unidentified cultural resources are discovered, a report documenting the field and analysis results and interpreting the artifact and research data within the research context shall be completed and submitted to the satisfaction of the Director of DPLU prior to the issuance of any building permits. The report shall include Department of Parks and Recreation Primary and Archaeological Site forms.
 - m. In the event that no cultural resources are discovered, a brief letter to that effect shall be sent to the Director of DPLU by the consulting archaeologist that the grading monitoring activities have been completed.
2. Provide evidence to the Director of DPW that the following notes have been placed on the Grading Plan:
 - a. The County-certified archaeologist/historian and Native American monitor shall attend the pre-construction meeting with the contractors to explain and coordinate the requirements of the monitoring program.
 - b. The Project Archaeologist shall monitor all areas identified for development including off-site improvements.
 - c. During the original cutting of previously undisturbed deposits, the archaeological monitor(s) and Native American monitor(s) shall be on site full-time to perform full-time monitoring. Inspections will vary based on the rate of excavation, the materials excavated and the presence and abundance of artifacts and features. The frequency and location of inspections will be determined by the Project Archaeologist in consultation with the Native American monitor. Monitoring of cutting of previously disturbed deposits will be determined by the Principal Investigator.
 - d. In the event that previously unidentified potentially significant cultural resources are discovered, the archaeological monitor(s) shall have the authority to divert or temporarily halt ground disturbance operations in the area of discovery to allow evaluation of potentially significant cultural resources. The Principal Investigator shall contact the County Archaeologist at the time of discovery. The Principal Investigator, in consultation with the County Staff Archaeologist, shall determine the significance of the discovered resources. The County Archaeologist must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared by the Principal Investigator and approved by the County Archaeologist, then carried out using professional archaeological methods.

- e. The archaeological monitor(s) and Native American monitor(s) shall monitor all areas identified for development.
- f. If any Native American burials, human skeletal or other remains including associated grave goods are discovered, the Principal Investigator shall contact the County Coroner. In the event that the remains are determined to be of Native American origin, the MLD, as identified by the NAHC, shall be contacted by the Principal Investigator in order to determine proper treatment and disposition of the remains.
- g. The Principal Investigator shall submit monthly status reports to the Director of DPLU starting from the date of the notice to proceed to termination of implementation of the grading monitoring program. The reports shall briefly summarize all activities during the period and the status of progress on overall plan implementation. Upon completion of the implementation phase, a final report shall be submitted describing the plan compliance procedures and site conditions before and after construction. (Note: use this condition only if grading will take more than one month). [DPLU, FEE]
- h. Prior to rough grading inspection sign-off, provide evidence that the field grading monitoring activities have been completed to the satisfaction of the Director of DPLU. Evidence shall be in the form of a letter from the Principal Investigator. [DPLU, FEE]
- i. Prior to Final Grading Release, submit to the satisfaction of the Director of DPLU, a final report that documents the results, analysis and conclusions of all phases of the Archaeological Monitoring Program. The report shall include the following: [DPLU, FEE x 2]
 - Department of Parks and Recreation Primary and Archaeological Site forms.
 - Evidence that all cultural collected during the grading monitoring program has been curated at a San Diego facility that meets federal standards per 36 CFR Part 79, and therefore would be professionally curated and made available to other archaeologists/ researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility within San Diego County, to be accompanied by payment of the fees necessary for permanent curation. Evidence shall be in the form of a letter from the curation facility identifying that archaeological materials have been received and that all fees have been paid.

OR

In the event that no cultural resources are discovered, a brief letter to that effect shall be sent to the Director of DPLU by the Principal Investigator that the grading monitoring activities have been completed.

7.1.4 Mitigation for Impacts to Transportation/Traffic

Mitigation measures proposed to address Project-specific impacts, as well as the Project contribution to cumulative impacts are identified below.

- M-TR-1 Direct impacts to Robelini Drive and South Santa Fe Avenue shall be mitigated as follows:
- a. and b. The Project Applicant shall extend the northbound right-turn lane on Robelini Drive at South Santa Fe Avenue from the current 130 feet in length to 260 feet in length.
- M-TR-2 Direct impacts to the Buena Creek Road/Monte Vista Drive intersection shall be mitigated as follows:
- a. The Project Applicant shall provide a dedicated right-turn lane on Buena Creek Road at Monte Vista Drive to the satisfaction of the County of San Diego.
- M-TR-3 Direct impacts to Buena Creek Road during connection of Project water and sewer lines to existing mains in the roadway shall be mitigated as follows:
- a. Prior to commencement of pipeline installation work, a Traffic Control Plan for Buena Creek Road shall be prepared and approved by the County.
- M-TR-4 Cumulative impacts to roadway segments shall be mitigated as follows:
- a. The Project Applicant shall participate in the County's TIF program to mitigate impacts to the portion of Buena Creek Road within the County. The Project Applicant shall provide payment toward the City of San Marcos PFF fee program to mitigate impacts to the portion of Buena Creek Road in the City of San Marcos.
 - b. The Project Applicant shall participate in the County's TIF program to mitigate impacts to South Santa Fe Avenue.
 - c. Cumulative impacts to the Monte Vista Drive segment will be mitigated through implementation of M-TR-2, above.
 - d. The Project Applicant shall provide payment toward the City of San Marcos PFF fee program to mitigate impacts to Twin Oaks Valley Road (CIP Projects 78, 87 and 88).
 - e. Cumulative impacts to Robelini Drive will be mitigated through implementation of M-TR-1 and through participation in the County's TIF program.
 - f. The Project Applicant shall participate in the County's TIF program to mitigate impacts to the portion of Deer Springs Road within the County. The Project Applicant shall provide payment toward the City of San Marcos PFF fee program to mitigate impacts to the portion of Deer Springs Road (CIP Project 78) in the City of San Marcos.

- M-TR-5 Cumulative impacts to intersections shall be mitigated as follows:
- a. The Project Applicant shall contribute a fair share towards the City of Vista's planned restriping of the SR 78/Sycamore Avenue eastbound ramps intersection to change the middle lane to a shared thru/right/left-turn lane.
 - b. Cumulative impacts to the Buena Creek Road/Monte Vista Drive intersection will be mitigated through implementation of M-TR-2, above.
 - c. The Project Applicant shall construct a 150-foot long westbound left-turn lane (with a 120-foot bay taper) on Buena Creek Road at Sugarbush Drive.
 - d. The Project Applicant shall provide payment toward the City of San Marcos PFF fee program to mitigate impacts to Twin Oaks Valley Road at the Buena Creek Road intersection.
 - e. The Project Applicant shall provide payment toward the City of San Marcos PFF fee program to mitigate impacts to Twin Oaks Valley Road at the Deer Springs Road intersection.
 - f. The Project Applicant shall participate in the County's TIF program to mitigate impacts to the I-15/Deer Springs Road interchange intersection.

7.1.5 Mitigation for Impacts to Noise

The following mitigation measures would reduce potentially significant noise impacts to less than significant levels.

- M-N-1 Prior to the approval of any plans, issuance of any permit, and approval of any final map(s), evidence shall be provided to the satisfaction of the Director of DPW that "Specific Environmental Notes" have been placed on the grading and/or improvement plans. If ripping and/or drilling is required on Lots 8 or 9, within 100-feet of a residential property line, an eight-foot tall noise barrier shall be erected along the length of the property line prior to the initiation of such activities. A barrier with a total length of 150 feet (75 feet along each side) adjacent to the corner of the property lines (Figure 2.5-2) will block the line of sight between the residential property and any ripping operations within 100 feet of the property. The sound attenuation barrier shall be a single, solid sound wall and shall be sited at the high point between the generated sound (at the ripping location) and the off-site sensitive receptor. The sound attenuation barrier shall be constructed of wood with no cracks or gaps through or below the wall. Any seams or cracks must be filled or caulked. The wood can be tongue and groove and must be at least one-inch thick or have a surface density of at least 3.5 pounds per square foot.
- M-N-2a Prior to the approval of any plans, issuance of any permit and approval of any final map(s), provide evidence to the satisfaction of the Director of DPW that the following "Specific Environmental Notes" have been placed on the grading and/or improvement plans:
- "Prior to the preconstruction meeting and prior to any grading or land disturbances, the applicant shall provide the Director of DPLU with a copy of certification reports for heavy

equipment, including bulldozers, loaders, compactors and backhoes to determine compliance with Section 36.409 of the Noise Ordinance.

OR

Limit the allowable period of construction activity with heavy equipment, including bulldozers, loaders, compactors and backhoes, to four hours per day on Lots D, E, F and I through 9.”

- M-N-2b Prior to the approval of any plans, issuance of any permit and approval of any final map(s), provide evidence to the satisfaction of the Director of DPW that the following “Specific Environmental Notes” have been placed on the grading and/or improvement plans:

“Prior to the preconstruction meeting and prior to any grading or land disturbances, the applicant shall provide the Director of DPLU with a copy of certification reports for heavy equipment, including bulldozers, loaders, compactors and backhoes to determine compliance with Section 36.409 of the Noise Ordinance.

OR

Limit the allowable period of construction activity with heavy equipment, including bulldozers, loaders, compactors and backhoes, to four hours per day on Cleveland Trail.

OR

A 12-foot high construction noise barrier to block the line-of-sight between the construction equipment and the adjacent residences shall be constructed along the length of the residential property line, subject to the barrier design specifications provided in M-N-1. Such barrier shall be constructed prior to the initiation of grading activities on Cleveland Trail.”

- M-N-2c Noise monitoring shall be conducted by an approved County noise consultant during the initial construction equipment operations to ensure that noise levels comply with County Noise Ordinance Section 36.409. Noise monitoring is for construction equipment operations along the western boundary line and improvements to Cleveland Trail. If noise monitoring indicates that the County noise criteria may be exceeded, subsequent monitoring will be conducted after implementation of remedial noise abatement measures. A noise report summarizing the results shall be filed to the satisfaction of the Director of DPLU.

- M-N-2d Residents within 200 feet of the construction activities shall be notified of the construction schedule at least one week prior to initial activities. Noticing for any blasting activities would be performed as required under Section 96.1.3301.2 of the County Code.

7.1.6 Mitigation for Impacts to Paleontological Resources

The following mitigation measure would reduce potentially significant paleontological resources impacts to less than significant levels.

- M-PAL-1 Prior to the approval of any plans, issuance of any permit, and approval of any final map(s), evidence shall be provided to the satisfaction of the Director of DPW that the

following “Specific Environmental Notes” have been placed on the grading and/or improvement plans:

- This Project site has marginal to low levels of sensitive paleontological resources. All grading activities are subject to the County of San Diego Grading Ordinance Section 87.430, if any significant resources (fossils) are encountered during grading activities. If any fossils are found that are greater than 12 inches in any dimension (including circumference), all grading activities shall be terminated and the DPLU Permit Compliance Coordinator shall be notified before grading is continued.
- If **any** paleontological resources are discovered and salvaged during Project operations, the monitoring, recovery and subsequent work determined necessary shall be completed by or under the supervision of a Qualified Paleontologist pursuant to the County Guidelines for Determining Significance – Paleontological Resources (January 15, 2009).
- Prior to rough grading inspection (Grading Ordinance Section 87.421), the following measure shall be implemented:

If **no** paleontological resources were discovered, a “No Fossils Found” letter (including the names and signatures of the fossil monitors) shall be submitted by the grading contractor to the DPLU Director stating that grading has been completed and no fossils were discovered. The letter shall be in the format of Attachment E to the County Guidelines for Determining Significance – Paleontological Resources (January 15, 2009).

7.2 Environmental Design Considerations/Conditions of Approval Required to Ensure Implementation of Design Features

7.2.1 Air Quality – Construction

- Grading will entail multiple applications of water during grading between dozer/scrapper passes.
- Paving, chip sealing, or chemical stabilization of internal roadways will occur after completion of grading.
- Sweepers or water trucks will remove “track-out” at any point of public street access.
- Dirt storage piles will be stabilized by chemical binders, tarps, fencing, or other erosion control and suppression measures.
- Grading will terminate if winds exceed 25 miles per hour (mph).
- Residential lots will be hydroseeded if lots are not developed soon after grading.
- The Project will require separation and recycling of construction waste.

7.2.2 Geology and Soils – Construction

- Project construction will incorporate measures to address potential impacts related to seismically induced ground acceleration (ground shaking), including conformance with applicable seismic parameters from the IBC, CBC and related local standards, and implementation of recommendations from the Project Geotechnical Investigation related to grading, engineered fill, and design specifications for foundations, footings, slabs and pavement.
- Project construction will incorporate measures to address potential impacts related to seismically induced liquefaction and related effects, including conformance with applicable seismic parameters from the IBC, CBC and related local standards, and implementation of recommendations from the Project Geotechnical Investigation related to removal of liquefiable materials and replacement with engineered fill, and use of surface and subsurface drainage facilities to avoid saturation of surficial materials.
- Project construction will incorporate measures to address potential impacts related to landsliding, including implementation of recommendations from the Project Geotechnical Investigation regarding inspection of cut slopes by the Project engineering geologist and the use of techniques such as rock-bolting, buttressing, slope regrading and/or retaining walls.
- Project design and construction will incorporate measures to address potential issues related to the stability of manufactured slopes, including:
 - Construction of manufactured slopes in residential areas at maximum grades of 2:1 (horizontal to vertical) unless steeper grades are specifically approved by the Project engineering geologist, and conformance with applicable regulatory standards related to slope stability factors of safety.
 - Use of keys for all fill slopes that extend a minimum of two feet into dense natural ground, with keys to encompass a 5 percent grade toward the interior of the fill and a minimum bottom width of 15 feet.
 - Inspection of all keys by the Project soil engineer or engineering geologist.
 - Use of fill materials that encompass appropriate composition, compaction and moisture content, per direction by the Project soil engineer or engineering geologist.
 - Use of native or drought-tolerant landscaping on all fill slopes, and installation of appropriate drainage facilities per direction by the Project soil engineer or engineering geologist.
- Project construction will incorporate appropriate erosion and sediment control measures in conformance with applicable regulatory requirements (with detailed measures provided below under Hydrology and Water Quality).
- Project design and construction will incorporate measures to address potential issues related to cut and fill transitions, including the use of over-excavation and replacement with engineered fill.
- Project construction will incorporate measures to address potential impacts related to the generation and disposal of oversize materials, including standard industry techniques such as removal/off-site disposal, placement in deeper fills, or use as landscape/decorative features.
- Project construction will incorporate measures to address expansive soils in applicable areas, including techniques such as removal and replacement with engineered fill, placement in deeper fills,

capping with non-expansive material, or other appropriate industry standard measures from sources such as the IBC.

7.2.3 Biological Resources – Construction

- The Project's compact land-use patterns will reduce habitat fragmentation and contribute to the preservation of natural habitats, including sage scrub, riparian forest and oak woodland.
- A hydroseed mix that incorporates native species, is appropriate to the area, and is without invasive species, will be used for slope stabilization in all transitional zones.
- Pepper trees (*Schinus* spp.) will not be permitted within the Project plant palette.

7.2.4 Hydrology and Water Quality – Construction

- An authorized SWPPP/SWSAS will be implemented, pursuant to requirements under the NPDES Construction Permit and the County Watershed Protection, Stormwater Management and Discharge Control Ordinance/Stormwater Standards Manual. Specific elements in these plans include:
 - Appropriate BMPs to control erosion and sedimentation, pursuant to applicable NPDES and County requirements and standards. Specific BMPs will be identified in the Project (to be prepared prior to Project construction) and may include measures such as seasonal and area grading restrictions, use of a weather-triggered action plan during the rainy season, use of erosion prevention and control efforts (e.g., fiber rolls, soil binders and silt fence), storage of BMP materials on site to provide adequate standby capacity, provision of appropriate training for construction personnel, installation of permanent landscaping after construction, implementation of appropriate solid waste management and dust control efforts, implementation of sampling and monitoring programs per regulatory requirements, and use of sediment controls downstream of paving activities. Refer to Section 3.1.5, Hydrology and Water Quality, of Subchapter 3.1 for more discussion.
 - The amount of construction-related hazardous materials (e.g., fuels) used and stored on site will be minimized, and storage/use locations will be restricted to areas at least 50 feet from storm drains and surface waters.
 - Raised (e.g., on pallets), covered, and/or enclosed storage facilities will be used for all hazardous materials.
 - Accurate and up-to-date written inventories and labels will be maintained for all stored hazardous materials
 - Berms, ditches and/or impervious liners (or other applicable methods) will be used in material storage and vehicle/equipment maintenance and fueling areas to provide a containment volume of 1.5 times the volume of stored/used materials and prevent discharge in the event of a spill.
 - Warning signs will be placed in areas of hazardous material use or storage and along drainages and storm drains (or other appropriate locations) to avoid inadvertent hazardous material disposal.
 - Paving operations will be restricted during wet weather and sediment control devices will be used downstream of paving activities.
 - Paving wastes and slurry (e.g., use of properly designed and contained concrete washout areas) will be properly contained and disposed of.
 - All construction equipment and vehicles will be properly maintained.

- Training will be provided to applicable employees in the proper use, handling and disposal of hazardous materials, as well as appropriate action to take in the event of a spill.
 - Absorbent and clean-up materials will be stored in appropriate on-site locations where they are readily accessible.
 - On-site trash and wastewater facilities will be properly located, contained and maintained.
 - Recycled or less hazardous materials will be used wherever feasible.
 - Regulatory agency telephone numbers and a summary guide of clean-up procedures will be placed in a conspicuous location at or near the job site trailer.
 - Hazardous material use/storage facilities and operations will be regularly (at least weekly) monitored and maintained to ensure proper working order.
 - A SWSAS will be implemented pursuant to regulatory guidelines.
 - Construction debris storage areas will be restricted to appropriate locations at least 50 feet from storm drain inlets and watercourses.
 - Appropriate storage facilities for construction debris, including adequately sized watertight dumpsters; covers to preclude rain from contacting waste materials; impervious liners; and surface containment features such as berms, dikes, or ditches will be used to prevent runoff and runoff.
 - A licensed waste disposal operator will be employed to regularly (at least once a week) remove and dispose of construction debris in an authorized off-site location.
- Applicable measures (e.g., testing and treatment) will be implemented to provide conformance with applicable requirements under the NPDES General Groundwater Extraction Waste Discharge Permit, if required (i.e., if discharge of extracted groundwater is required and would exceed permit criteria).

7.2.5 Noise – Construction

- If required, blasting charges will not exceed 16 pounds with a minimum 8 millisecond delay at 200 feet from an occupied property line and blasting will not occur more than twice a day.
- Chemical rock-breaking agents will be used instead of blasting where off-site uses are located within 200 feet of removed bedrock.
- Breaking of rocks post-blasting and chemical breaking will occur 300 or more feet from the Project western or northern property boundaries, within the heart of the residential development bubble.

7.2.6 Aesthetics – Operations

- Development will be consolidated on flatter, less environmentally sensitive areas to minimize impacts to sensitive upland habitats.
- Edges of development will be softened through the use of contour grading.
- Landscaping will be installed per the Project's approved Landscape Plan.
- Project lighting will adhere to the County LPC (Title 5, Division 1, Chapter 2, County Code of Regulatory Ordinances).

- Fencing at top of slope (edge of pad) for the eight residences located along the western property boundary will be constructed of open iron fencing painted in black or dark green. The use of masonry walls, wood or chain link along the western property boundary will be prohibited.
- Homes in the Project will have at least 12 different elevations, based on 3 different floorplans, 2 architectural styles per floorplan, and 2 color schemes per architectural style.

7.2.7 Traffic – Operations

- Grading will be balanced on site, with no import or export truck traffic required.

7.2.8 Air Quality – Operations

- The Project landscaping palette will include drought-tolerant trees, emphasizing evergreens on the north and west sides of buildings and deciduous trees on the south sides of buildings. These plantings will contribute to on-site carbon storage, provide shade, and reduce heating from impervious surfaces.

7.2.9 Public Services and Utilities – Operations

- The Project Applicant will pay developer fees levied by the Vista Unified School District prior to the issuance of building permits.
- Project design will include water conservation measures, including the state-mandated 14 BMPs for water conservation (such as installation of ultra low-flow toilets) and the use of drought tolerant vegetation where possible.

7.2.10 Hydrology and Water Quality – Operations

- All proposed storm drain facilities will be designed to generally retain existing drainage patterns and directions, and to accommodate a 100-year storm event.
- Proposed detention/bioretention basins will be designed to regulate flows such that post-development 100-year storm flows from (leaving) the site will not exceed existing 100-year flow volumes.
- Energy dissipation structures will be installed at applicable locations (e.g., basin and culvert outlets) to reduce flow velocities and minimize associated erosion potential.
- Native and/or drought tolerant plants and “smart” irrigation systems will be used in landscaped areas to reduce irrigation requirements and minimize associated potential runoff generation.
- The Proposed Project design includes a number of site design, LID, source control, and treatment control BMPs related to long-term water quality issues and associated regulatory requirements (including NPDES permitting and County requirements), as summarized below. The Project applicant (or a related entity such as a HOA) will be responsible for post-construction BMP programs and activities, as well as for monitoring and maintenance for physical BMP facilities.
 - Site design BMPs include measures such as avoiding or minimizing impacts to water courses, floodplains, steep slopes and wetlands; minimizing impervious areas through efforts such as providing decomposed granite trails rather than sidewalks; maximizing the preservation of natural areas; incorporating native or drought-tolerant landscaping varieties and irrigation management

techniques; incorporating unlined facilities (i.e., detention/bioretention basins, vegetated swales and landscaping) into the Project drainage system to provide filtering and infiltration capacity; installing energy dissipators to reduce flow velocities and erosion potential; providing smooth transitions between drainage outlets and channels to reduce turbulence and scour; and protecting manufactured slopes through efforts such as minimizing slope dimensions/grades (e.g., by using retaining walls), rounding and shaping to reduce flow concentrations, and collecting flows in stabilized drains and channels.

- LID BMPS include measures such as preserving approximately 77 acres of predominantly native habitat as permanent open space; clustering Project development to reduce disturbance and provide setbacks from drainages; reusing native topsoil and/or incorporating soil amendments in landscaped areas; directing runoff from development into pervious areas such as detention/bioretention basins, vegetated swales and landscaping; and using “smart” irrigation systems, including features such as tailored irrigation schedules to avoid over watering, and moisture/pressure sensors to limit irrigation during wetter periods and/or shut-off flows to broken pipelines/sprinkler heads.
- Source control BMPs include measures such as installing “no dumping” stencils/tiles at applicable locations (e.g., storm drain inlets); employing landscape and irrigation system design as described for LID BMPs to reduce irrigation and chemical application requirements; directing associated runoff into landscaped areas where feasible; and, conducting regular drainage facility inspection and maintenance.
- Treatment control BMPs include the installation of three detention/bioretention basins along the western boundary of the site on Lots E and F to treat runoff from all proposed developed areas except Lots 11 and 33, and using vegetated swales to treat runoff from Lots 11 and 33 in the southeastern portion of the site.

7.2.11 Fire Protection – Operations

- Six-foot-tall fire walls will be installed along the urban/wildland interface (along the south sides of lots 8-11, southeast sides of lots 11 and 33, and east sides of lots 33-45, and on the north sides of the building pads on lots 1 and 6).
- An eight-foot-tall fire wall will be installed along the north side of the on-site portion of Cleveland Trail where a 16-foot-wide fuel modification zone cannot be provided.
- Project design will incorporate appropriate fuel management zones (75 to 125 feet wide) in designated areas (e.g., adjacent to all structures), pursuant to the San Diego County Fire Code and as detailed in the Project FPP (Appendix B).
- Project design will meet all general vegetation management requirements of the Project FPP.
- Fuel management zones will be appropriately maintained by the Project HOA, which will include efforts such as inspecting/repairing irrigation systems, vegetation thinning/pruning and weed removal.
- Project landscape design will exclude all prohibited plant materials listed in the Prohibited Plant Materials list in Appendix B. The prohibited trees, shrubs, vines and groundcovers shall not be planted or retained in any HOA-maintained landscaped area.

- Project landscape shall be consistent with the planting, spacing and maintenance guidelines in Appendix B. Project design will incorporate applicable ignition and fire resistance measures for all structures (pursuant to the San Diego County Fire and Building codes, see Appendix B), including the use of approved sprinkler systems; proper roofing and exterior wall materials; and appropriate design and construction of facilities such as eaves, vents, doors, window frames, decks, chimneys, gutters and fences.
- All structures exceeding 200 square feet will be equipped with sprinkler systems.
- Residential structures on lots 11, 33, 36, 37, 38, 42 and 45 will be one story only.
- The design and operation of all access-related facilities such as streets, driveways, gates, speed bumps, walkways and emergency access roads will comply with applicable requirements of the San Diego County Fire Code or other pertinent standards.
- Fire-related water supplies and access facilities within the site will conform to associated requirements identified in Appendix B, including measures such as providing emergency truck access, providing adequate fire flow within the site (1,500 gpm for two hours), and using approved fire hydrant design and spacing (per requirements in the San Diego County Fire Code).
- All residential units will be equipped with smoke detectors.

7.2.12 Land Use – Operations

- Proposed Project lighting will comply with the County LPC.

THIS PAGE INTENTIONALLY LEFT BLANK